

Exhibit 11.

Emergency Response - Event Chronology (“Timeline”) Narrative³⁰⁷

A summary of substantive activities conducted by the jurisdictional 9-1-1 Emergency Call Center / emergency services Dispatch agency (Clarke County – E911 / Central Dispatch), the responding jurisdictional emergency services agency (Carmichael Volunteer Fire Department), the responding jurisdictional law enforcement agency (Clarke County Sheriff Department), supporting mutual aid emergency services organizations, and responding technical resources of the pipeline company owner – operator / management service provider (Dixie Pipeline / Enterprise Products) during this event is as follows³⁰⁸.

Select acronym nomenclature / abbreviations used in this Exhibit³⁰⁹

*	documented time reference (verified against USNO Master Clock Time ³¹⁰)
~	approximately
>	greater than
911-log	Clarke County – E911 / Central Dispatch - Log sheet ³¹¹
ASAP	as soon as possible
DEP-AN	activity notes submitted by representatives of Dixie / Enterprise Products
Butler Sta	Dixie / Enterprise Products - Butler Pumping Station (at ~ MP 443.8)
Carm Sta	Dixie / Enterprise Products - Carmichael Pumping Station (at MP 425.25)
CDp	Clarke County – E911 / Central Dispatch – operating personnel
CC-AT	Clarke County – E911 / Central Dispatch – Activities Timeline [report] ³¹²
Control Op	Control Operator at Pipeline-Ops
<u>corrected</u> time	refers to the likely actual time, as compared to the “Logged” time notation
CR	[Clarke] County Road
Comsouth	technical maintenance contractor of the Clarke County – E911 / Central Dispatch service radio system ³¹³ (interview and statement of Service Technician who performed the Service Call on November 1, 2007)
CVFD	Carmichael Volunteer FD (a.k.a. Carmichael Fire Department)

³⁰⁷ Compiled pursuant to an Emergency Response Debriefing [meeting] with the Survival Factors - Party to the Investigation participants and principals of the primary responding emergency services agencies [fire / rescue, police, 9-1-1 / emergency services Dispatch, etc.] on Nov. 05, 2007 (during the on-scene phase of the investigation), including supportive documentation received from the agencies. Compiled also utilizing interview information of, and submitted documentation by, the various non-Party to the Investigation entities who supported the Investigation. Communications cited in the Timeline are generally by Service Radio, unless otherwise noted. Time references cited, unless specifically identified otherwise, are estimates / approximations [as noted]. Names of individuals, and select other personally identifiable information, are omitted for considerations of privacy, as noted.

³⁰⁸ as facilitation to this Exhibit, several maps are provided in Exhibit 2 of this report.

³⁰⁹ supplements the list of Select Acronym Nomenclature, located subsequent to the Table of Contents of this report.

³¹⁰ i.e. Official Time Standard of the United States; see [Internet] <http://www.time.gov/>

³¹¹ as manually tabulated by operating personnel of this agency (which is the only handwritten documentation recorded for Dispatch activities by this agency)

³¹² documentation detailing all relevant and identified communications activities (9-1-1 calls / emergency services Dispatch Radio) of the Clarke County 911- Emergency Call Center / Central Dispatch, as described (in summary) in this report, is available in a separate Addendum to the Survival Factors - Factual Report.

³¹³ having performed a Service Call at E911 / Central Dispatch, as further described in the Survival Factors Factual Report; see § 7.9

CVFDtl	CVFD Timeline [Field Notes] supplied to the investigation
CVFDdn	CVFD Incident Debriefing notes, as supplied by the CVFD Chief (or designated CVFD staff)
debr	on-scene debriefing interview by NTSB
Dixie	Dixie Pipeline Company (pipeline owner / operator)
EOC	Emergency Operations Center
FD	fire department (generic)
FF's	firefighters (generic)
FI	field interview by NTSB
HCAN	Dixie / Enterprise Products Controller at Pipeline-Ops - activity notes (submitted to the investigation)
hrs	hour(s)
IC log	Incident Command Log report (Clarke County Emergency Management)
ident:	technician identification ³¹⁴
MFC	Mississippi Forestry Commission
MFCr	MS Forestry Commission report documentation (on this event)
min(s)	minute(s)
MP	milepost (geographic location reference along the pipeline route)
mph	miles per hour
MS	Mississippi
MSSP	Mississippi State Police
MV	motor vehicle (generic)
N, S, E, W	compass directions; North, South, East, West, respectively
Op	Operator
Op's	Operations
PCAN	[Dixie / Enterprise Products] Pipeline Control Activity notes
Pipeline-Ops	Dixie / Enterprise Products Operations Control Center [Houston, TX]
POV	personally (privately) owned vehicle
SCADA	Pipeline-Ops / SCADA System [control panel] - Filtered Event Summary Reports
secs	seconds
SI	subsequent interview (via telephone) by NTSB
WC-911	Wayne County 9-1-1 Emergency Call Center / Emergency Services Dispatch
WCAD	documentation [CAD ³¹⁵ Incident Report] supplied by Wayne County 9-1-1 Emergency Call Center / Emergency Services Dispatch, and interviews of principals of that agency and corresponding [Wayne County] fire / rescue agencies.
Vol.	Volunteer [FD]
Yellow Ck	Dixie / Enterprise Products - Yellow Creek Pumping Station (at ~ MP 406.2)
y.o.	year old [age]

Note - 'normal' pipeline [product] pressure at the Carmichael Pumping Station is ~ 1400 psig.

³¹⁴ where also, for considerations of personal privacy, only initials of the individual's name are cited in this report

³¹⁵ Computer Aided Dispatch, as further described in the Survival Factors Factual Report; see § 6.8.1.e.

Time ³¹⁶	Information	Source(s) Activity Summary
Thursday, 01 November 2007		
10:35:01* SCADA	based upon Pipeline-Ops documentation ³¹⁷ , the identified time the pipeline rupture likely occurred ³¹⁸ .	
10:35:07* SCADA	“1079.2 PSIG (ROC state)” activity for Carm Sta registers on SCADA, where the Control Op noticed a ‘rate of control state’ change.	
10:35:13* SCADA	“7126.68 BBLH (High-High State)” activity for Carm Sta registers on SCADA, which indicates an automated alert to the Control Op of a problem at that pumping station, where it would have been prudent to shutdown the product flow at that location.	
10:35~ FI	A witness (a F, ‘senior citizen’, property owner), at her residence in the 8500 block of CR 630, is alarmed by a loud, unusual noise outside of the residence. The witness described the sound [to NTSB staff] as somewhat of a pulsating “roar”, which she initially thought was originating from a helicopter (hovering above the property). This witness spent several minutes walking about the residence, in an attempt to identify the source of the sound. Within a few minutes of this sound initiating, a neighbor (of the witness) arrived at the residence and indicated that the sound was from the pipeline, where the neighbor also thought that the pipeline was about to “explode”, and implored the witness to immediately call the pipeline company to report what was occurring (as further described; see 10:41~ activity).	
10:35~ SI	A witness ³¹⁹ (a 42 y.o. M), who, on the morning of the accident, indicated	

³¹⁶ The time references cited in this column are when the noted activities occurred, as best could be ascertained in the investigation, utilizing a four-digit [24 hr clock] military time notation. Time references cited are approximate unless denoted by an asterisk (*), which identifies a documented time reference (as verified against the USNO Master Clock Time, as described in § 6.8.3). For purposes of this investigation, the time reference is cited for only the identified ‘minute’ delineation in which the noted activity occurred, with the ‘second’ delineation cited for activities in which a more precise timestamp delineation was significant to the noted activity (e.g. usually only significant at the onset of the emergency response to the event, or when multiple activities occur during the same minute).

³¹⁷ source: correspondence, dated Nov. 19, 2007, submitted to the investigation by Dixie / Enterprise Products, describing the methodology used by Dixie / Enterprise Products in identifying the time that the pipeline rupture likely occurred.

³¹⁸ based upon witness testimony (as identified herein this report), the propane gas released by the rupture did not immediately ignite, but an explosive ignition and a substantial fire did result a short time later; although the investigation was unable to definitively identify this time interval, witness testimony and Timeline activities suggest this time interval was about 7½ minutes after the pipeline rupture occurred (i.e. the explosive ignition is suspected to have occurred at about 10:42:30).

[to the investigation³²⁰] that he was visiting his great aunt at her residence in the 4300 block of CR 621, heard, and took notice of, the resounding sound of a loud boom, which appeared to have occurred a short distance away. Immediately subsequent to this, this individual heard, and became concerned about, a loud, unusual, resounding sound outside of the residence, which the witness described [to NTSB staff] as somewhat of a pulsating, “rumbling, roar”, which he initially thought was originating from some type of airplane (flying above the property). This individual walked outside, to the porch of the residence, for a brief period of time to investigate the source of the noise, but found nothing, whereupon he returned inside the residence (as further described; see 10:38~ activity).-

- 10:36:25* SCADA “Issued Command COMMAND OFF” activity for Carm Sta, indicating the Control Op commenced pump shutdown process at Carm Sta.
- 10:37:01* SCADA “Issued Command COMMAND OFF” activity for Yellow Ck registers on SCADA, indicating the Control Op commenced pump shutdown process at Yellow Ck.
- 10:37:12* SCADA “Issued Command COMMAND ON” activity for Butl Sta registers on SCADA, indicating the Control Op commenced pump startup process at Butl Sta, in an effort to ‘draw-off’ product, and minimize pipeline [product] pressure in the segment of pipeline to the W of the Butl Sta, where a suspected pipeline rupture had occurred.
- 10:37~ DEP-AN A Dixie / Enterprise Products (locally contracted) field technician [ident: SB] manually closed Block Valve at MP 437.43
- 10:38~ HCAN Dixie / Enterprise Products Controller at Pipeline-Ops commenced to call-in field personnel, from both E and W of the suspected rupture site, to respond to the site.
- 10:38~ SI The witness (who indicated that he was visiting his great aunt at her residence in the 4300 block of CR 621), who heard the pulsating, “rumbling, roar”, upon walking outside (to the porch of the residence) for a brief period of time, had returned inside the residence upon not finding the source of the noise. As the sound continued, after a short period of time, the witness again went outside the residence to try to determine the noise source. This individual walked a short distance in front of the dwelling, toward the pavement of CR 621. Upon reaching the roadside mailboxes (in front of the residence), he looked in a northerly direction of the CR 621 roadway, where he observed the residential dwelling located at 4195 CR 621, which was the residence of a relative of his (i.e. a cousin)

³¹⁹ this individual resides in a municipality located about a 45 minute drive to the northeast of this location, and (as noted) happened to be visiting his relative, at this location, that morning.

³²⁰ see the Survival Factors - Witness Interview Notes report (available in the Public Docket)

[see Note 1, below]. The dwelling at 4195 CR 621 was located opposite a ‘bend’ in the roadway at that location, which was [later determined to be] about 600 feet north of his location. He also observed what the witness described as a “white cloud coming up the road”, which was in the area of the dwelling at 4195 CR 621, in which also the white cloud appeared to be moving in a right to left [i.e. east to west] direction. This individual was puzzled at what he was seeing, and had no idea what had initiated the white cloud, or its source, or if this was potentially a situation of eminent peril³²¹, but was alarmed, and concerned, to the extent that this needed to be examined further.

This individual stated that he also saw at that time, a heavy-set female, which he believes was another relative of his (i.e. the daughter of the resident of 4195 CR 621), who resided at 4207 CR 621 [see Note 2, below], which is the residential dwelling located immediately next door to (i.e. to the east of) the residence at 4195 CR 621. He stated that he saw this individual running from a right to left direction (in his field of view), which was in an east to west direction, where the individual was running toward the dwelling at 4195 CR 621, and he stated that this individual was “yelling for sis”. The individual wasn’t sure what was occurring in his observation, and didn’t communicate with the F individual running in the distance, but was becoming increasingly alarmed at what was occurring.

This individual went back inside the residence, and telephoned Clarke County 911 to report what was occurring (as further described; see 10:40:13 activity).

Notes of this activity:

1. remains of one individual (of the two fatalities that occurred in this event) were later found at the described residential dwelling.
2. remains of the other individual (of the two fatalities that occurred in this event) were later found near the described residential dwelling.

10:38:20* SCADA “Issued Command COMMAND CLOSE” activity for Yellow Ck East Valve registers on SCADA, indicating the Control Op commanded closure of the Block Valve at the east side of Yellow Ck, to prevent product backflow from the E.

10:39:13* SCADA “Issued Command ACKNOWLEDGE ANALOG.DX01_YC_STA_DISC ...” activity for Yellow Ck, acknowledging Discharge Valve at that location was closed.

10:39:13* SCADA “Issued Command ACKNOWLEDGE ANALOG.DX01_YC_STA_SUCTION ...” activity for Yellow Ck, acknowledging Suction Valve at that location was closed.

³²¹ i.e. that the white cloud was extremely explosive propane gas

10:39~ DEP-AN A Dixie / Enterprise Products field technician [ident: JP] confirmed the Block Valve at MP 437.43 had been manually closed by another field technician [ident: SB].

10:39:56* CC-AT An individual [an apparent F voice], who did not provide a name, placed a telephone call to Clarke County 911 from a residential dwelling that was located at 4195 CR 621. Given the significance of this call (i.e. this was the first 9-1-1 call [in Clarke County] notifying emergency response authorities of the incident, in which also remains of one individual [of the two fatalities that occurred in this event] were later found at the residential dwelling from where the call was placed), a transcript of the call³²², which had a duration of 1:20, is as follows.

CDp: “911, what is your emergency”,

Caller [in an excited voice, which continues for the duration of the call]: [unclear words, then] we in Clarke County 621, [unclear words] it [unclear words] be a gas explosion somewhere around here, [unclear words] we don’t know where, all this smoke and gas coming out around the house,

CDp: m’am, what’s the, umm, address,

Caller: 621 County Road,

CDp: 621 County Road ?

Caller: yes m’am,

CDp: look, m’am, m’am, I need that correct address, you said 621, what County Road is it ?

Caller: Waynesboro,

CDp: OK, hold on, let me transfer you to Wayne ..., well hold on just a second, OK,

Caller: [unclear words] gas is explo, gas is everywhere,

CDp: what’s your address, is your address 4195 ?

Caller: [unclear words] yes m’am,

CDp: is it close to you ?

Caller: yes m’am, it’s all around, three trails around here, and the house,

CDp: do you see the fire up ?

Caller: no we don’t see a fire, we can see all the gas and [unclear words] smoke and stuff, [unclear words], we smell gas,

CDp: m’am,

Caller: hmmm,

CDp: OK, what do you see ?

Caller: gas, it’s smelling gas, it’s [unclear word] white gas, smelling gas, smelling gas,

CDp: ya smell, ya smell gas ?

Caller: and smoke,

CDp: and smoke,

Caller: [unclear words] like somthin’ just blowed up, we heard somthin’ blow up,

CDp: OK, we’ll get somebody out there now,

Caller: OK, please hurry up,

CDp: OK

³²² CC-AT call activity file ref. 911-1_2007-11-01_10_37_41

Caller: [although CDp had concluded the call (hung-up), caller is heard to continue saying] gas, please, uuu, are you all right ..., the sound [caller's voice] then concluded.

10:40:04* SCADA “Un-commanded change to state Off” activity for Butler Station registers on SCADA (indicating the pressure was drawn-off on the upstream side of the station)

10:40:13* CC-AT A witness (who was visiting his great aunt at her residence in the 4300 block of CR 621), placed a telephone call from that location to Clarke County 911. Given the significance of this call (i.e. this was the second 9-1-1 call [in Clarke County] notifying emergency response authorities of the incident, which initiated moments after the first 9-1-1 call initiated, in which also the caller was the sole 9-1-1 caller to witness, at a relatively close distance, the approaching propane gas [cloud] and the subsequent explosive ignition of the gas, where the caller subsequently survived the explosion / fire), a transcript of the call³²³, which had a duration of 1:33, is as follows.

To help define call context, this individual stated that during the 9-1-1 call, he walked back outside the residence (with the cordless phone handset) and walked toward the CR 621 pavement in front of the house, to observe [in a northerly direction] that the residential dwelling at 4195 CR 621 (to the north) had now essentially disappeared into the white cloud, which also had completely obscured that segment of the CR 621 roadway.

[before call is answered, a M voice is heard]: hey, what's the county road,

CDp: “911, what is your emergency”,

Caller: hey, we have a, some type of explosion [unclear words; appears to be side-talk from another 911 operator], on CR 621, I believe, [unclear words; appears to be side-talk from another 911 operator], huh ?

CDp: some type of explosion ?

Caller: yes, there's smoke coming up the road, we, I can't see it but,

CDp: OK, well what ...,

Caller: hold, hold on one second, [unclear words, where it appears caller is speaking to someone else at his location] what road is this, what road is this, yeah, [unclear words] hold on a second, 621, [unclear words, where it appears caller is speaking to someone else (sounds like a F voice) at his location] CR 621,

CDp: what's the house number ?,

Caller: uhh, sir, if you come down the road, you'll see it,

CDp: OK,

Caller: I don't know the house number,

CDp: you don't know what type of explosion or anything ?,

Caller: I don't know sir, but it's, it's steady roaring,

CDp: OK,

³²³ CC-AT call activity file ref. 911-2_2007-11-01_10_37_58

Caller: and if I walk out to the road, I can see a bunch of smoke,
CDp: alright, what's your name ?,
Caller: my name is [first name, then last name cited],
CDp: [repeats back the last name to caller, as if to confirm]
Caller: yes
CDp: what's your phone number sir ?,
Caller: ahh, the number here is [number cited],
CDp: uhh huh,
Caller: [caller cites the last 4 digits of the phone number],
CDp: [CDp cites the last 4 digits of the phone number, as if to confirm], alright, we'll get somebody to come that way, OK,
Caller: OK, [unclear words], it's, I mean there's smoke coming everywhere,
CDp: OK,
Caller: OK, alright,
CDp: alright.

Upon concluding the 911 call (at 10:41:46*), in seeing the white cloud approaching the residence through the woods (behind [east of] the dwelling), the witness decided it was time for them to withdraw [self-evacuate] as soon as possible from that location, and seek a safer venue until it could be determined exactly what was occurring (as further described; see 10:42~ activity).

10:41~ FI A witness [in the 8500 block of CR 630] who was alarmed by a loud, unusual noise outside of the residence, in response to the neighbor's suggestion that the pipeline company be notified, located a 'pipeline awareness' brochure (distributed by Dixie / Enterprise Products), and placed a phone call to the [800 / toll-free] Dixie / Enterprise Products emergency number cited therein. The witness advised the individual answering the call [a Houston Pipeline Operations Controller] of a loud, unusual noise originating from the direction of the pipeline, which she described as being 'behind her property', and provided the location address.

The witness indicated that during the phone conversation, the noise of what appeared to be a loud explosion is heard by the witness³²⁴, which appeared (to the witness) to have originated from the direction of the pipeline right-of-way. This loud noise is later identified [by the investigation] to likely have been an ignition of the propane gas that had been released from the pipeline rupture.

The Houston Controller subsequently indicated (to NTSB investigative staff) that this particular phone call was helpful in specifically locating the site of the pipeline rupture.

³²⁴ no determination could be made by the Investigation as to when (i.e. at what time during the phone discussion) this noise occurred, as the witness was not recording the time when various elements of the event occurred.

Upon concluding the call to Dixie / Enterprise Products, the witness then telephoned Clarke County 911 to report the incident (as further described; see 10:52:57 activity).

Subsequent visual examination [by NTSB investigative staff] indicated this individual's residence appeared to have sustained minor structural damage, where also it was later identified that the residence was located about 2,500 feet northeast of the pipeline rupture location.

- 10:41~ PCAN Dixie / Enterprise Products Controller at Pipeline-Ops noted that a phone call was received from a local resident proximate to the accident site [in the 8500 block of CR 630], to report a loud, unusual noise outside of that residence (as further described; see preceding [10:41~] activity for the witness in the 8500 block of CR 630).
- 10:42~ CC-AT Responsive to the 911 call at 10:39:56 from 4195 CR 621 reporting a "loud explosion in the Carmichael Community", and the preceding 911 call at 10:40:13 reporting similar information on that same road, E911 / Central Dispatch placed a radio dispatch Page to the CVFD (i.e. the CVFD was "toned-out"), with a request to respond to the site of the "loud explosion" reported at 4195 CR 621³²⁵. Unknown to E911 / Central Dispatch operating personnel, at that time, was that there had been what was subsequently identified as an 'apparent malfunction' of the Fire Department radio signal "repeater system", in which also (it was later determined), the radio dispatch Page to the CVFD had not actually been transmitted, which also the E911 / Central Dispatch operating personnel were not aware of.
- 10:42~ SI A witness (who was visiting his great aunt at a residence in the 4300 block of CR 621), upon completing the call to Clarke County 911 to report what was occurring, returned to the house. He convinced his great aunt that they needed to immediately depart the residence, and make an expeditious egress (in his vehicle), to evade the approaching "white cloud". This individual assisted his great aunt in getting to his pickup truck³²⁶, which was parked just off the CR 621 pavement in front of the house; a process (upon concluding the 9-1-1 call) that is estimated have taken about one minute to complete³²⁷. The individual's great aunt got into the passenger

³²⁵ per standard operating procedure for Central Dispatch (as further described in this report; see § 6.8.1.b)

³²⁶ the individual expressed that, although not physically impaired, his great aunt, in being a 'senior citizen', does require a slight amount of extra time to complete mobility tasks, as compared to a younger individual.

³²⁷ as consideration, this witness indicated (in the NTSB interview) that he estimated the time interval (to reposition himself, with his great aunt, from the residence to his vehicle) to have been about two minutes; however, in consideration of the action of another [credible] eye-witness to the explosive ignition of the propane gas (who initiated a 9-1-1 call to WC-911, which appears to have an accurate 'timestamp' of 10:42:50, as described in this report), who more accurately identifies the time of the explosive ignition, it's surmised that this witness may have inadvertently over-estimated the two-minute time interval, where his action was actually less than one minute.

seat, and he quickly walked around to the driver's side, and got into the vehicle (as further described; see 10:42:30~ activity of this witness).

10:42:30~ debr

The resounding sound of what appeared to be a substantial explosion that occurred several miles away is heard by the CVFD Assistant Chief, who is at his place of business (located ~ ¼ mile from the CVFD fire station), which is followed shortly thereafter by the sound of a 2nd explosion, and possibly the sound of a 3rd explosion. About 10 to 15 seconds after hearing the 1st explosion, a large fireball plume and a pronounced cloud of heavy black smoke is also seen by the CVFD Assistant Chief, rising above the tree line in an easterly direction. The initial suspicion by the Assistant Chief was that an explosion had occurred in the neighboring county to the east (in Alabama), possibly the Hunt Oil [pipeline] pumping station and tank farm (which pumps crude oil). Reacting to what he had witnessed, the CVFD Assistant Chief immediately initiates responsive action (see 10:43~, and subsequent activities).

10:42:30~ SI

[to resume the preceding (10:42~) activity of the witness who was visiting his great aunt at a residence in the 4300 block of CR 621, who also was the second Clarke County 9-1-1 caller] Upon closing the driver's door, but before this individual turned the ignition key, suddenly, and without warning, an enormous explosion occurred, which violently shook the pickup truck. The witness stated that when this occurred, he also saw a "ball of fire coming through the trees" from the east (behind his great aunt's house).

The witness then felt substantial heat inside the pickup truck, and in looking to his right, saw that the passenger-side door was not quite fully closed. Fire had enveloped the wooded areas to the north and east of their location, but had not encroached upon the relatively open ground where his pickup truck was parked (adjacent to the CR 621 pavement). Fire had also enveloped the pavement areas of CR 621 to the north, which, (because he was located near the end of CR 621) blocked the only roadway escape path in that direction. Accordingly, with a heavy wooded area to the west (which the witness recognized would be difficult to travel quickly through with his great aunt), the only expedient escape path for them was obviously to the south (which, absent pavement, or at least a cleared 'drivable' trail, they would need to proceed on foot).

The witness said to his great aunt "we need to get out of the truck", whereupon the two quickly exited the vehicle. There was an extreme level of heat in the area, where the two individuals began to quickly proceed, on foot, in a southerly direction, away from the fire, in which he also assisted his great aunt so that they could evade the increasing heat as quickly as possible. During this escape from that area, the witness stumbled and fell to the ground, and sustained a minor abrasion to his arm. When the

witness looked back in the direction of the cluster of residential dwellings proximate to his great aunt's house, he saw flames "swirling" a distance above the dwellings, but that the dwellings were not actually on fire.

The two individuals were able to proceed, on foot, at a relatively fast pace (almost fully running at first, where they then slowed down due to his great aunt's inability to sustain a fast pace), a distance of several hundred yards, to a clearing at the edge of a small pond located to the south of the cluster of residences proximate to his great aunt's house, where they found that they were sufficiently distanced from the fire and the ensuing heat. They remained at that location for a period of time (to allow the fire to subside), whereupon they later returned to his pickup truck, and subsequently exited the area (as further described in the investigation; see Witness Interview [Addendum Factual] report).

10:42:50* WCAD a call was placed to the WC-911 (Wayne County 9-1-1 agency), by an individual using a [cellular] telephone, who was located at a construction site (on a road to the north of Waynesboro), to report "an explosion somewhere either on [one of two identified roads, to the northeast of the caller's location, in the direction of Matherville]"³²⁸. Responsive to this (as well as another 9-1-1 call that was received commencing 17 seconds later), the WC-911 / Dispatch commenced to respond Wayne County emergency services resources to the identified location (as further described; see 10:43:07 and 10:45:47 activities).

An interview by NTSB staff with this individual, who appeared to be a credible witness³²⁹, indicated that the caller had placed [initiated] the call to 9-1-1 an estimated 20 seconds after personally seeing a large fireball plume and a pronounced cloud of heavy black smoke rising above the tree line in a northeasterly direction from his location. Subsequent review (by NTSB staff) of a Wayne County and a Clarke County map relative to this description (of the caller's location), indicated that the [explosion / smoke] location was to the northeast of the community of Matherville).

10:43~ debr [to resume the preceding 10:42:30~ activity of the CVFD Assistant Chief] Responsive to what had just occurred (a large fireball plume and a pronounced cloud of heavy black smoke, seen rising above the tree line in an easterly direction), the CVFD Assistant Chief, in an effort of making an expedient first-hand determination at what was occurring (rather than assume that the event was occurring in his jurisdiction, where also it might be premature to dispatch CVFD resources to an as yet unidentified

³²⁸ the northern boundary of Wayne County borders the southern boundary of Clarke County (where the accident location was about 3 miles north of the Wayne County boundary), in which also the explosion (large fireball plume) and heavy black smoke was clearly observed (above the tree line, to the north) by individuals in Wayne County.

³²⁹ the caller (an adult male) indicated he is currently employed as an independent construction contractor, and had previously served as a Wayne County Deputy Sheriff officer

location), immediately commenced to drive his POV in the direction of the fireball plume and heavy black smoke. While en route, the Assistant Chief immediately connected with the CVFD Chief of the department³³⁰ via his [personally owned] SouthernLINC Wireless[®] communication feature³³¹ of this cellular telephone, at which time the two conferred briefly on what had occurred, preliminarily identified the location (which was sufficient to direct CVFD resources to the general area of the accident), and concurred that a response of the CVFD would be initiated, in which also the Assistant Chief would commence to directly muster / dispatch CVFD resources to the scene, and then meet the CVFD Chief at the scene. The Assistant Chief then diverted the short distance back in the direction toward the CVFD fire station. The Assistant Chief then connected with several other CVFD FF personnel via his SouthernLINC Wireless[®] communication feature, to provide a notification of what occurred, and a request to respond resources to the scene. He also received a call from a relative via his SouthernLINC Wireless[®] communication feature, who was located relatively near the explosion site, who indicated a pipeline explosion had occurred and provided more specific information on the location (near the E end of CR 621, which is a short distance E of the intersection of CR 620 and CR 621). As he was nearing the CVFD fire station, the Assistant Chief temporarily deferred attempting to contact Clarke County – E911 / Central Dispatch [to notify them of the event, and of the CVFD's pending response to the scene] using his cellular phone (which sometimes showed no signal availability³³²), as it was his intention to make that contact using the service radio in the CVFD pumper truck, which he planned to do immediately upon departing the fire station with the pumper truck (see 10:45~, and subsequent activities).

- 10:43:07* WCAD WC-911 / Dispatch received a 2nd 9-1-1 call reporting information similar to that of the 1st 9-1-1 call, which had commenced at 10:42:50 (as further described; see 10:45:47 activity).
- 10:43:20* CC-AT Responsive to the 9-1-1 calls [initiated] at 10:39:56 and 10:40:13, Clarke County – E911 / Central Dispatch contacted a Sheriff Deputy (by Service Radio), to advised they received a 911 call from a residential address at 4329 CR 621, which reported an explosion, where the caller was not sure where the noise came from, and the caller can see a lot of smoke but didn't know what it is. CDp requested the Deputy respond to the location to

³³⁰ the CVFD Chief was located at that time at his place of business, on the far-opposite side of the explosion site (relative to the location of the Assistant Chief and the CVFD fire station), which also was somewhat of a distance from the explosion site and the CVFD fire station location, where also it was far more expedient for the CVFD Chief to proceed directly to the explosion site.

³³¹ a 'walkie-talkie' feature of his cellular telephone (as further described in this report; see § 6.8.6.a)

³³² at certain locations in the county, cellular telephone signal [reception] coverage is sometimes sporadic.

investigate the report, and indicated that the CVFD is headed that way, which the Deputy acknowledged.

- 10:43~ CC-AT The [10:43:20*] radio contact to the Sheriff Deputy was followed shortly thereafter by a phone call [office line or cellular] to that same Deputy, reiterating the information received. This was followed shortly thereafter by a phone call [office line or cellular] to another Sheriff Deputy, which provided information to that officer about the reported event (at the 4195 CR 621 location), and a request to respond, along with the 1st Deputy contacted, to that location, which the 2nd Deputy acknowledged.
- 10:44~ debr Clarke County Sheriff, who happened to be at his residence³³³, received a phone call from Clarke County – E911 / Central Dispatch, inquiring if there were any pipelines around County Road 630 and 621, as E911 / Central Dispatch had just received [911 call] reports about an “explosion” in that area. The Sheriff responded that there was a pipeline that ran through the Carmichael area. The Sheriff [later] noted that he had been listening (casually) to his Service Radio [just prior to this phone call], but when he received this phone call, there was no radio traffic about an incident occurring in the Carmichael area. E911 / Central Dispatch advised the Sheriff that two Units [Deputies] had been dispatched to that location and CVFD had been Paged-out to respond, in which he concurred, and the Sheriff indicated that he would begin closer monitoring of radio traffic for potential activity updates.
- 10:44~ CC-AT Clarke County – E911 / Central Dispatch, upon not receiving a radio response acknowledgement to the initial dispatch Page that had been placed to the CVFD about two minutes earlier, repeated the radio dispatch Page, which this time was placed to the Theadville Vol. FD³³⁴, with a request to respond to the site of the “loud explosion” reported at 4195 CR 621. Again, unknown to E911 / Central Dispatch (at that time) was that the Fire Department radio signal “repeater system” had apparently malfunctioned, and the radio dispatch Page to that FD had not been transmitted.
- 10:45~ debr The CVFD Assistant Chief arrived at the CVFD fire station, where several other CVFD personnel, in also hearing the explosion and/or in seeing the fireball plume and heavy black smoke, had also arrived at the fire station. A civilian worker (who was not affiliated with the CVFD, but who recognized that it would be beneficial for the CVFD to have first-hand information about the event), who had been located a short distance from the explosion site, arrived (approximately simultaneously) at the fire station by automobile, and provided additional information to the CVFD firefighters about the explosion.

³³³ located an estimated 20 miles from the pipeline explosion site.

³³⁴ per standard operating procedure for Central Dispatch (as further described in this report; see § 6.8.1.c)

- 10:45~ CC-AT Clarke County – E911 / Central Dispatch placed a phone call [office line or cellular] to Paratech Ambulance Service informing them of the explosion and requesting that they proceed to that location. Medic 1 and Medic 6 [of that organization] advised that they would respond to that location.
- 10:45:04* CC-AT A witness, at a [cited] address near the accident site, placed a telephone call (the 3rd to be received) to Clarke County – E911 / Central Dispatch³³⁵, to report an explosion had occurred behind his house, involving “two or three big booms”, in which “black smoke, coming [from] everywhere” could be seen at that location. White smoke was also mentioned by the caller, and that the caller didn’t know if the white smoke was originating from the Dixie pipeline, which was located near where the smoke was originating from. The CDp responded that the FD was already en route.
- Note – this 9-1-1 call was succeeded by several subsequent 9-1-1 calls, as well as calls to the E911 / Central Dispatch administrative (non-emergency) phone lines, which reported essentially similar information, which (in being substantially redundant) are not further cited herein³³⁶.
- 10:45:47* WCAD WC-911 / Dispatch, responsive to the 1st 9-1-1 call received (commencing at 10:42:50, which concluded about 2 minutes later), dispatched a Wayne County Sheriff deputy toward the identified location to investigate and report back [to WC-911 / Dispatch] a more precise location / description of the reported incident (as further described; see 10:59~ activity).
- 10:46~ debr The CVFD Assistant Chief, and another CVFD command officer [a Captain] upon briefly conversing with the civilian worker (who provided information on what had occurred), then immediately departed the fire station with the pumper truck, en route to the scene of the explosion (see 10:47~ notation).
- 10:47~ debr The CVFD Assistant Chief and the CVFD Captain, in traveling in the pumper truck, en route to the scene of the explosion, attempted to use the Service Radio (in the truck) to communicate with Clarke County – E911 / Central Dispatch to notify them of the event, and of the CVFD’s response to the scene³³⁷, but they received no response. After several attempts, the Assistant Chief reverted to the CVFD’s back-up communication plan, and used their [personally owned] SouthernLINC Wireless® communication feature to communicate with other CVFD FF personnel, to provide notification of what occurred, and a request to respond resources to the

³³⁵ CC-AT call activity file ref. 911-3_2007-11-01_10_42_49

³³⁶ these subsequent 9-1-1 / admin line calls are documented in the Clarke County – E911 / Central Dispatch – Activities Timeline [report].

³³⁷ i.e. referred to as a “10-8” radio message

scene³³⁸. The Assistant Chief successfully connected with several other responding CVFD FF personnel, who were dispatched to the CVFD fire station, with instructions to bring [drive] the remaining CVFD vehicles (2 tanker trucks) to the scene. The above communication process required a few minutes to complete, in which also, pursuant to the CVFD and E911 / Central Dispatch's back-up communication plan, the next communication attempt was to connect with E911 / Central Dispatch using the Clarke County Sheriff Department radio frequency (see 10:55~ notation).

10:48~ PCAN Dixie / Enterprise Products Controller at Pipeline-Ops received phone call from Hunt Oil pumping station staff; informed him that the Hunt Oil pumping station had been shut down (ceased pumping operations) and the pipelines had been blocked-off in the area.

10:48~ CC-AT Clarke County – E911 / Central Dispatch, upon not receiving a radio response acknowledgement to the dispatch Page that had been placed to the Theadville Vol. FD about four minutes earlier, repeated the radio dispatch Page, which this time was placed to the Theadville Vol. FD, CVFD, Desoto FD, and Quitman FD, with a request to respond to the site of the “loud explosion” reported at 4195 CR 621³³⁹. Again, unknown to E911 / Central Dispatch (at that time) was that the Fire Department radio signal “repeater system” had apparently malfunctioned, and the radio dispatch Page to the FD's had not been transmitted.

10:49~³⁴⁰ PCAN Dixie / Enterprise Products Controller at Pipeline-Ops phoned the Clarke County 9-1-1 agency (via a long-distance telephone line), intending to provide a notification of a system anomaly [proximate to the Carm Sta], but was told they [Clarke County – E911 / Central Dispatch] were already aware of the event, and had dispatched three units [fire / rescue trucks] to the scene³⁴².
[corrected time³⁴¹]
Note - this communication coincides with the following Activity notation.

10:49:51* CC-AT Clarke County – E911 / Central Dispatch received a call on an administrative (non-emergency) phone line³⁴³, in which a brief [semi-transcript] summarization of the recorded call is as follows:

³³⁸ in not being able to contact Clarke County – E911 / Central Dispatch upon making several initial attempts, rather than consume valuable time in repeated contact attempts (which might not be immediately successful, as Dispatch might be addressing some other priority event), the next priority was for the Assistant Chief to initiate a Dispatch request directly to his CVFD resources [personnel and equipment], which the Assistant Chief knew to be likely successful, and then resume attempting to contact E911 / Central Dispatch.

³³⁹ per standard operating procedure of E911 / Central Dispatch (as further described in this report; see § 6.8.1.c)

³⁴⁰ the time indicated for this activity, originally reported by Pipeline Control [Dixie / Enterprise Products], was 10:42, which was subsequently determined by the Investigation to be inaccurate (see 10:49:51* Activity notation).

³⁴¹ as corroborated by the ‘timestamp’ of an inbound phone call [described for the Activity occurring] at 10:49:51*

³⁴² as clarification, E911 / Central Dispatch had, several minutes prior, issued a Dispatch Page to several FD agencies to respond to the scene, and was awaiting an acknowledgement (confirmation) that a response had commenced.

³⁴³ CC-AT call activity file ref. 601-776-3956_2007-11-01_10_47_36

caller: [a M voice] this is Dixie Pipeline Company, at 8520 CR 630 in Shubuta, [reporting] a blowout on our propane pipeline.
CDp: we've got 3 FD's paged-out, coming that way.
caller: asked who he was speaking with,
CDp: [stated her name],
caller: asked if this was a direct line we can get back with you,
CDp: responded yes,
which concluded the call.

10:52:37 SCADA a "Command Closed" is issued by Dixie / Enterprise Products Controller at Pipeline-Ops to the Discharge Valve at the Butler Sta.

10:52:45 SCADA a "Command Closed" is issued by Dixie / Enterprise Products Controller at Pipeline-Ops to the Intake Valve at the Butler Sta.

10:52:57* CC-AT A witness [located at a residential dwelling in the 8500 block of CR 630] placed a telephone call to Clarke County 911, to report the "pipeline behind the house has just blown-up"³⁴⁴. CDp responded that the FD was already en route. This individual [witness] had earlier placed a call to the Dixie Pipeline emergency contact number (as described in the 10:41~ activity).

10:53~ debr The CVFD Assistant Chief and CVFD Captain, in passing through the intersection of CR 630 and CR 620 in the pumper truck (en route to the scene), upon seeing a substantial / fully-involved fire and a pronounced cloud of heavy black smoke being released as they drew nearer to the scene (i.e. in the open field, to their left, a short distance off CR 620, behind the wooded area adjacent to the roadway), strongly suspected that the fire was likely sourced from the propane pipeline that passed through [buried beneath the soil surface] the cattle pasture at that location, although they also knew of the crude oil pipeline that also passed through the cattle pasture in that area. The extent of fire spread, and/or the number and locations of civilians who might be in peril, was not known to them at that time. The two CVFD command officers cautiously approached the scene, where it became apparent that the residences on CR 621 would probably be in the most peril, and thus headed toward that destination.

10:55:24 CC-AT call rec'd (on Admin line) advising the CD that the Carmichael FD was attempting to call them on the Fire Channel, where CDp responded "on the Fire Channel, hmm, we haven't heard them", where Caller indicated "yeah, they've got a fire", where CDp responded OK.

10:55:43 CC-AT call rec'd (on Admin line) advising the CD that the Carmichael FD [radio

³⁴⁴ CC-AT call activity file ref. 911-1_2007-11-01_10_50_42

unit # 2 - Assistant Chief] was attempting to contact the CD on the service radio [“fire channel”], where CDp responded that the CD couldn’t hear the radio transmission, and that they would try to contact the Carmichael FD again.

10:55~ CC-AT Upon not receiving a radio response acknowledgement to the dispatch
[note - likely Page that had been placed to the Theadville Vol. FD, CVFD, Desoto FD,
corrected time^{345, 346}] and Quitman FD about seven minutes earlier, Clarke County – E911 /
Central Dispatch personnel realized that the FD radio signal “repeater
system” apparently had malfunctioned, where it also became obvious that
none of the prior radio dispatch Pages to the FD’s had been received.
Responsive to this, pursuant to their back-up communication plan, E911 /
Central Dispatch then switched-over to the Clarke County Sheriff
Department radio frequency / signal “repeater system”, which was
performing normally³⁴⁷.

Approximately simultaneous to this, it was represented to the Investigation that a message was received from the Sheriff, as relayed by a Deputy, to switch to the Sheriff Department radio signal “repeater system” (as further described in this report; see 10:55~ activity, below)³⁴⁸.

The maintenance contractor for the FD radio signal “repeater system” was also notified a short time later of the apparent system malfunction (see 11:01~ activity notation).

10:55~ debr The Sheriff, in further monitoring his Service Radio, upon not hearing a radio transmission response from the CVFD, or any other fire / rescue agency for that matter (acknowledging the fire / rescue Page-out, and an indication that a response to the scene had been initiated), suspected that the Fire Department radio signal “repeater system” must have failed to transmit for some reason. Responsive to this, as he was not able to directly contact the Clarke County – E911 / Central Dispatch (due to limitations on Sheriff Department service radio signal transmission range), the Sheriff contacted one of his Deputies (who was within transmission range of his hand-held radio), with a request that the Deputy notify E911 /

³⁴⁵ the Logged 10:48 notation was subsequently determined to be inaccurate by several minutes (possibly due to inadvertent manually recorded [time ref.] errors by CDp, as further described in this Report; see § 6.8.2.b).

³⁴⁶ as corroboration of the correct ‘timestamp’, two inbound phone calls were received [recorded at 10:55:24, and 10:55:43, respectively], indicating to CDp (to the effect) that the CVFD was attempting to contact the CD, in which also the CDP appeared unaware of same, which also suggests that the ‘frequency changeover’ [to the Sheriff Department frequency] had not yet occurred.

³⁴⁷ Clarke County FD vehicles [fire trucks] have the on-board capability of transmitting on the Clarke County Sheriff Department radio signal frequency, which is also the back-up communication plan for the Clarke County FD’s to be used in the event a malfunction occurs with the FD radio signal “repeater system”.

³⁴⁸ neither an audio record in the recorded radio or telephone call [audio] channels, nor a notation (of this communication) in the Dispatch Log Sheets was found, although it’s possible that this call was made using a non-recorded cell phone, or administrative phone line of Central Dispatch, and this item was inadvertently omitted due to the activity burden occurring at that time.

Central Dispatch that the fire / rescue radio signal “repeater system” appears to have failed, with instructions for them to, pursuant to the E911 / Central Dispatch back-up communication plan, switch their radio broadcast communications channel over to the Clarke County Sheriff Department radio signal “repeater system” (for further radio communications to the fire / rescue agencies)³⁴⁹.

The Sheriff then expeditiously proceeded, in his POV (which did not have a built-in Service Radio), toward the reported scene of the explosion, issuing Dispatch instructions (using a hand-held³⁵⁰ service radio) to his Deputy Sheriff staff (i.e. those who happened to be within radio signal range), while en route, for them to respond to the site.

10:55~ debr

The two CVFD command officers [CVFD Assistant Chief and Captain] arrived at the intersection of CR 620 and CR 621. Near that location, the Assistant Chief observed several technical personnel of the local electrical power company working on unrelated [power line] activities, where there was no fire damage at that location. The two CVFD command officers then proceeded to drive the pumper truck a short distance E on CR 621 (anticipating to encounter the underground pipeline that crossed beneath the roadway a short distance E of the intersection of CR 620 and CR 621).

The Assistant Chief was aware that the pipeline transported highly flammable propane, but what caused what appeared (at that time) to be a substantial rupture and product release, and fully-involved fire, was not apparent at that time, nor was the extent of possible damage to other parts of the pipeline apparent. Accordingly, they stopped their truck just prior to the underground propane pipeline (right-of-way) crossing beneath CR 621. The two CVFD command officers were hesitant to proceed further on CR 621 with the FD vehicle, given the uncertainty of what was occurring with the pipeline (i.e. the prospect of further ruptures, explosions, etc.). Accordingly, the vehicle was initially staged at that location, which also became the *initial* Forward Command / resource staging location.

It was approximately at this time that the two CVFD command officers received word (likely from one of the on-scene Deputy Sheriff officers) that the FD [fire / rescue] radio signal “repeater system” had apparently ‘gone-down’ (malfunctioned), and pursuant to the [collective CVFD and E911 / Central Dispatch] back-up communication plan, on-scene fire / rescue resources were to switch-over to the Sheriff Department radio frequency (which utilized the Sheriff Department signal “repeater

³⁴⁹ see footnote _____ immed preceding zzzzzzz

³⁵⁰ as a general observation, hand-held service radios have a somewhat limited transmission range, although they can communicate directly with other hand-held radios, as well as a “base-station” radio unit (as might be located at a fire station, or the County Communication Center).

system”). As the CVFD personnel were extremely busy with exigent on-scene activities, they appreciated that a Deputy Sheriff officer would shortly relay (using his Service Radio), on their behalf, an ‘on-scene / arrival status’ report³⁵¹ to E911 / Central Dispatch (see 10:56~ activity).

- 10:56~ CC-AT Clarke County – E911 / Central Dispatch apparently received a ‘relayed’ radio / telephone communication (likely from one of the on-scene Deputy Sheriff officers), which provided, on behalf of the CVFD, an ‘on-scene / arrival status’ report³⁵⁴, indicating, to the effect, that resources³⁵⁵ of the CVFD³⁵⁶ had just arrived proximate to the scene (i.e. intersection of CR 620 and CR 621), and that the CVFD [fire truck] was apparently the first arriving piece of firefighting apparatus at the scene, and that the CVFD had already initiated a dispatch of other CVFD resources to the scene, and that word to switch-over to the Sheriff Department radio frequency had been received by the CVFD.
- 10:56:06 SCADA a “Command Closed” is issued by Houston Controller to the Intake Valve at the Carm Sta.
- 10:56:26* WCAD WC-911 / Dispatch received a 3rd 9-1-1 call reporting information similar to that of the 2nd 9-1-1 call (which had commenced at 10:43:07). Approximately simultaneous to this, the dispatched Sheriff deputy [in the field] reported back to Dispatch that the incident source visually appeared to be in Clarke County, to the immediate north of the Matherville community (as further described; see 10:59~ activity).
- 10:56:57 SCADA an “Acknowledged” message registers on SCADA that Discharge Valve closed at Butler Station.
- 10:57~ debr In arriving at the initial Forward Command / resource staging location, the CVFD Assistant Chief and CVFD Captain are joined by the CVFD Chief of the Department (who had arrived via his POV). Following SOP of the CVFD, the CVFD Chief assumed operational command of the responding fire / rescue resources, as directly supported by the Assistant Chief and the other responding CVFD personnel. As with the Assistant Chief, the CVFD Chief was aware that the pipeline transported highly flammable propane, but what caused what appeared (at that time) to be a substantial rupture and product release, and fully-involved fire, or the extent of

³⁵¹ i.e. a “10-23” Dispatch radio message

³⁵² the Logged 10:50 notation was subsequently determined to be inaccurate by several minutes (possibly due to inadvertent manually recorded [time ref.] errors by CDp, as further described in this Report; see § 6.8.2.b).

³⁵³ as corroboration of the ‘timestamp’, this activity could not have occurred until the ‘frequency changeover’ had occurred (see above 10:55~ notation).

³⁵⁴ i.e. a “10-23” radio message

³⁵⁵ i.e. the responding CVFD pumper truck, containing the CVFD Assistant Chief and the CVFD Captain.

³⁵⁶ which is the primary fire / rescue agency for that jurisdiction, and which is also the initial fire / rescue agency that had been Dispatch Paged to respond to the scene (a message that was never actually received by the CVFD).

possible damage to other parts of the pipeline was not apparent at that time. The two CVFD command officers were also aware there was another pipeline that traversed the open field in the vicinity of the fire (i.e. a Hunt Oil pipeline, transporting crude oil³⁵⁷), and thus given the extent of heavy black smoke, there was some initial uncertainty as to exactly which pipeline was involved, or if both pipelines were involved.

- 10:59* WCAD WC-911 / Dispatch, upon receiving three 9-1-1 calls, and a report from the dispatched Sheriff deputy [in the field] that the incident source visually appeared to be in Clarke County (to the immediate north of the Matherville community), dispatched (“toned-out”) fire / rescue resources (initially the Matherville FD, along with other Wayne County FD’s) to respond to the suspected incident location. Performed as (an anticipated / proactive) ‘mutual aid’ response to the scene, this Dispatch initially consisted of three engines [fire trucks and crews], and appropriate fire / rescue command officers and other personnel, as further described (see 11:18~ activity). The initial fire / rescue Dispatch was also subsequently expanded to other fire / rescue resources within Wayne County (e.g. City of Waynesboro FD Chief, at 11:03~). The initial Dispatch of fire / rescue was followed shortly thereafter by a Dispatch of law enforcement resources (see 11:12~ activity).
- 10:59:16* CC-AT Clarke County – E911 / Central Dispatch received a call on an administrative (non-emergency) phone line³⁵⁸ from a civilian (who was a Hamm radio operator), who indicated he was in [radio] contact with a [another] Hamm radio operator in the Mathisville area, who called to relay information from the other Hamm radio operator, where the civilian suggested that Clarke County – E911 / Central Dispatch “might want to send quite a few people” [to the event] in that the fire [appeared to be] “pretty big”, where the CDP also inquired if anyone was injured, where the civilian indicated that he thought that “Wayne County is going to try and send somebody”, which E911 / Central Dispatch acknowledged the indication of Wayne County’s response.
- 10:59:16* CC-AT Clarke County – E911 / Central Dispatch received a call on an administrative (non-emergency) phone line³⁵⁹ from an employee of the Sheriff Department, who indicates that the Sheriff Department is receiving phone calls inquiring about the event, where CDP responds there’s been a propane explosion near Carmichael on CR 630 and indicates that the Sheriff Department should reply to callers (to the effect) that the FD’s are headed that way.

³⁵⁷ an eight inch diameter pipeline, owned / operated by Hunt Crude Oil Supply Company, intersects with (passes several feet beneath) the Dixie / Enterprise Products pipeline about 170 feet E of the rupture site.

³⁵⁸ CC-AT call activity file ref. 601-776-**3956**_2007-11-01_10_57_01

³⁵⁹ CC-AT call activity file ref. 601-776-**3960**_2007-11-01_10_57_10

11:00~ debr

The two CVFD command officers [i.e. the CVFD Chief and Assistant Chief], in performing a quick / initial ‘visual size-up’ of the situation, began to organize the elements of a [fire / rescue] tactical response for the incident (as further described in this report; see § 7.3.2.c).

They observed several civilians (apparent residents of CR 621, or CR 620 in that area) attempting to help others exit (self-evacuate) the scene. Several Sheriff’s deputies were also observed to arrive at about that time, which began to assist civilians to exit (evacuate) the scene, and to establish MV traffic control at the W end of CR 621.

A short distance to the E, the burnt-out (destroyed) remnants of residential dwellings were observed, with other burning residences observed in the area that were fully engulfed in flames (and thus deemed to be not salvageable given the degree of fire involvement³⁶⁰). It was subsequently determined that a total of four residences in that immediate area were destroyed.

Fire had extensively charred the trees and dried-grass in the area, but had also essentially self-extinguished in that area, and there were several small spot fires in the area, although these small fires did not appear to present immediate peril to the remaining civilians (who were evacuating).

In the open field, a distance visually estimated to be about 900 feet to the northeast (of where the pipeline intersected with [passed beneath] CR 621), there was a large, billowing, uncontrolled fire, which was visually identified to be within the linear boundary of the pipeline right-of-way. Flames extended into the air a distance estimated to be up to several hundred feet, but which also appeared to be sourcing from somewhat of a single location and didn’t appear to be laterally extending a substantial distance beyond that single location (which was later determined to be the trench containing the ruptured pipeline), and the heat generated could be felt even at that substantial distance (~ 900 feet) from the fire.

The fire was assumed (at that time) to be originating from a large rupture in the pipeline, in which a large volume of propane [product] was being released and was intensely burning, which (at that time) was also assumed to be the origin of the fuel for the (previously observed) explosion. Concern also presented regarding the other [buried] pipeline (transporting crude oil) that traversed the open field, although its involvement, if any, was not evident at that time. But the exact pipeline identity was immaterial to the responding CVFD command officers at that time, as the initial actions of the emergency response to a rupture, irrespective of

³⁶⁰ not salvageable from the perspective that the structure was observed to be ‘fully involved’ with fire, and that a suppression effort at that time was impractical to implement

product being released / burning (i.e. propane, or crude oil), would be essentially identical.

There were no structures or other obvious physical entities located proximate to the fire that might be in peril, although (it was later learned) livestock (cattle) had been located proximate to the pipeline rupture site, which had perished or received unrecoverable injury in the explosion / fire.

With the many downed electrical power lines in that area (as a possible source of ignition sparks from arcing wires), which were in close proximity to the pipeline right-of-way, and given the uncertainty of what was occurring with the pipeline, and that several of the other residences in that area (which hadn't ignited) might still contain occupants, the Chief immediately issued command instructions (to the responding CVFD, and other arriving mutual aid FF's) to search the several residences in that immediate area (about a ¼ mile radius of the explosion site), and confirm that the occupants had been evacuated to a safe location.

The initial ¼ mile evacuation (radius) evolved into an evacuation for a larger geographic area as appropriate for the threat hazard, as identified by consultation of the Emergency Response Guidebook³⁶¹. In consultation with [law enforcement] Incident Command, the evacuation distance was subsequently established to about a one-mile radius from the pipeline rupture location.

Given the limited fire suppression resources on-scene at that time and the exigency of completing the evacuation of that immediate area, fire suppression was deferred for the several burning residences that were fully engulfed in flames (which earlier had been deemed not salvageable, such that essentially no material loss resulted by this deferral).

A brief inspection commenced of what remained of the residential dwellings located at 4195 and 4207 CR 621 (i.e. the locations of the dwellings where the two fatalities occurred), where the remains of two decedents were observed (one at each location). As it was apparent nothing could be done for the two decedents, and with the fire having already essentially self-extinguished at those locations, the responding CVFD resources moved-on to the other residential dwellings in the area, on the prospect of being able to provide emergency response assistance.

Upon completion of the initial civilian evacuation (i.e. on CR 621), the CVFD resources, as assisted by mutual aid response resources, began to

³⁶¹ ref. U.S.D.O.T. / Transport Canada / Secretariat of Transport and Communications of Mexico; 2004 Emergency Response Guidebook

address fire suppression (to the extent possible) of the burning residences in that immediate area.

As the large uncontained fire in the open field to the northeast continued unabated, although intense and uncontrolled, upon recognizing that:

- the fire appeared to be sourcing from somewhat of a single location (which was later determined to be the trench containing the ruptured pipeline) and didn't appear to be extending a substantial distance laterally or longitudinally beyond that single location, such that the fire remained within the linear boundary of the pipeline right-of-way, and
- where also, no individuals [humans], structures, or other obvious physical entities proximate to the fire appeared to be in peril, and
- in which no information was available at that time as to what was occurring with the pipeline (i.e. was the pipeline being shut down, or might there be an unanticipated increase in product flow and thus an increase in fire), and
- as the fire in the wooded areas proximate to the residential structures in that immediate area appeared to be somewhat self-extinguishing,
- and given the prior instructional guidance (received from Dixie / Enterprise Products) that no effort should be made to extinguish such a fire unless informed accordingly by Dixie / Enterprise Products officials,

the CVFD command officers resolved that no effort would be made to approach, contain, or otherwise suppress the fire, as the fire was effectively consuming the released propane product (which preempted concerns over a release of explosive propane gas, which would be of a far greater concern than addressing the existing fire), in which also the CVFD would defer any fire containment / suppression tactical response until receiving guidance from technical resources of the pipeline owner / operator - management service provider [Dixie / Enterprise Products].

11:01~ CC-AT A phone call was placed by Clarke County – E911 / Central Dispatch to the technical maintenance contractor for the radio equipment, to advise that the FD radio signal “repeater system” was apparently not working, and requested an immediate service call to get them operational again (as an emergency response to an explosion was in progress), in which the technical maintenance contractor responded that a service technician would be priority dispatched to their location (see 11:40~ activity notation).

11:03:39* CC-AT Clarke County – E911 / Central Dispatch received a call on an administrative (non-emergency) phone line³⁶² from the civilian (Hamm radio operator) who called a few minutes earlier [at 10:59:16] who indicated he was again in [radio] contact with a [another] Hamm radio

³⁶² CC-AT call activity file ref. 601-776-3956_2007-11-01_11_01_24

operator [as he had earlier mentioned, who lives] in the Mathisville area, where he called again to relay information from the other Hamm radio, indicating the incident was located at Road [CR] 620 and 621, where the CDp then inquired if that was the exact location, where the said “yes, it’s exactly at [CR] 620 and [CR] 621”, and indicated the name of the other Hamm radio operator, saying that other Hamm radio operator was on his Hamm radio with him, at that location, now. CDp then asked if the other Hamm radio operator knew the “name” [presumably, meaning the address] of the house that was on fire? The caller responded to this “no, it’s not a house ... it’s a pipeline that blew up”, which the CDp then acknowledged the information.

- 11:06~ CC-AT Phone call by Clarke County – E911 / Central Dispatch (CDp) to the Administrator of H.C. Watkins Hospital [in Quitman], advising him of the explosion in the Carmichael Area, and it was unknown if any injuries at that time, and just calling to put them on standby just in case. The Hospital Administrator indicated that he would respond (to activate [the initial stages of] their Preparedness Plan) accordingly³⁶³.
- 11:11~ CC-AT Phone call by Administrator of H.C. Watkins Hospital to Clarke County – E911 / Central Dispatch, indicating [to the effect] they were ready and that Lakeside Living Center had called and advised them if they need nurses they would have some to come to the hospital or the explosion area.
- 11:12* WCAD WC-911 / Dispatch, upon Dispatching the initial group of fire / rescue resources (at 10:59~), initiated a Dispatch of law enforcement resources to the scene [Wayne County - Sheriff Deputies].
- 11:12:59* CC-AT Clarke County – E911 / Central Dispatch received a call on an administrative (non-emergency) phone line³⁶⁴ from [what is later determined to be] Wayne County emergency services 911 / Central Dispatch, inquiring if Clarke County [emergency services] will be needing Wayne County assistance (at the incident in progress in the Carmichael community). The caller inquired if the incident is a fire or is it a pipeline, in which the CDp responded it’s a pipeline explosion, where the CDp then asks if (the Wayne County) fire department is already headed that way, where the caller inquires if the scene location is at CR 620, which the CDp responds yes, where the caller then indicates that [Wayne County emergency services] are already on their way.
- 11:13:18* CC-AT a Clarke County deputy [Service Radio] transmission³⁶⁵ to another Clarke

³⁶³ the stand-by alert was independently affirmed by hospital administration in an interview by NTSB staff, although the hospital administrator wasn’t able to recall the exact time that the notification was provided.

³⁶⁴ CC-AT call activity file ref. 601-776-3956_2007-11-01_11_10_44

³⁶⁵ CC-AT radio transmission activity file ref. Clarke_SO_2007-11-01_11_11_03

County deputy (who apparently inquired if it was permissible to allow passage [through the roadway blockade] of responding firefighters), indicated [to all SO Units] “nobody but emergency personnel down here, if they’re not in a fire truck, or a law enforcement, or a county vehicle, they need to stay out”. When the receiving Clarke County deputy inquired “we got a lot of, ahh, volunteer fireman coming with the fire trucks, ya want to let them on through?”, the initiating Clarke County deputy responded “right now, we’re try, we going to keep everybody out right now, we can’t do nothing until [we] shut this gas off”, and that “we’re going to let the gas go until Dixie Oil gets here”

11:15* WCAD WC-911 / Dispatch, responsive to their standard operating protocol, notified Wayne General Hospital of the incident, which in response, resulted in the hospital administration initiating a stand-by alert (of its tactical response personnel)^{366, 367}.

11:15~ debr the Clarke County Sheriff arrived proximate to the intersection of CR 620 and CR 621, and pursuant to the Clarke County Comprehensive Emergency Management Plan, began to organize and implement what would evolve into Incident Command for the incident. The Sheriff assumed the role as Incident Commander, as supported by the Clarke County Emergency Management Director.

Pursuant to the Clarke County Comprehensive Emergency Management Plan, notifications were made to the designated mutual aid law enforcement agencies, which commenced to respond resources to the scene.

Also pursuant to the Clarke County Comprehensive Emergency Management Plan, an assumption was initiated by Incident Command that the site would be a “crime-scene” until a determination was made to the contrary. This afforded Incident Command the ability to initiate certain site security provisions as might be appropriate to effectively / efficiently manage a crime scene. Corresponding to this, however, was the consideration that, at the onset of the response to an incident such as this, the Incident Commander would defer the direct management [command] of all fire suppression and hazardous rescue operations entirely to the responding fire / rescue agencies (who would establish their own command structure to manage that element of the emergency response effort), as they were obviously better equipped / trained for such endeavors.

³⁶⁶ pursuant to its documented Response Preparedness Plan, which was activated to an ‘initial phase’, but not further executed, and then deactivated (upon determining no significant quantity of patients were to be received / processed by the facility).

³⁶⁷ the stand-by alert was independently affirmed by the hospital administration in an interview by NTSB staff.

Accordingly, at the onset of the response to the incident, the Incident Commander deferred the management of fire suppression activities to the CVFD, as supported by responding mutual aid resources. The evacuation process was being performed by resources of the CVFD, as supported by responding fire / rescue mutual aid resources, with additional support from responding law enforcement resources (as further described in this report; see § 7.6.1).

Site perimeter security (i.e. establishment, and staffing of, roadway blockades at the evacuation radius delineation points) was performed by uniformed officers of the various responding local law enforcement agencies.

As the incident progressed, upon completion of the initial fire suppression effort and evacuation process, and upon stabilization of the incident, pursuant to the NIMS protocol³⁶⁸, the command structure was subsequently elevated by Incident Command, to a Unified Command System to better manage the event.

- 11:16:33* CC-AT Clarke County – E911 / Central Dispatch received a call on an administrative (non-emergency) phone line³⁶⁹ from the Quitman FD Chief (who is also the County Fire Marshal and Fire Investigator), where [as the essence of the discussion] the caller inquires “... what’s wrong with the fire repeater?”, and CDp responds “... ever since that happened, the fire repeaters are messing up, so we been having to try to talk to them through the SO channel, which I hear nothing is coming through the fire repeater”, where the caller is then transferred [to another phone line] to discuss the situation with the Director of the E911 / Central Dispatch (not recorded).
- 11:17:27* CC-AT CDp places a call³⁷⁰ to the Mississippi Highway Patrol, to speak with the Commanding Officer, to relay a message from the Clarke County Sheriff, who is proximate to the accident site, for the Commanding Officer [of that Highway Patrol station] to telephone the Clarke County Sheriff, on his cellular telephone, where the CDp also indicated “we’ve got a propane explosion down here”, where the Commanding Officer inquired of the location of the event, which the CDp provided (indicated the intersection of the two County roadways proximate to the site).
- 11:18* WCAD The 1st of the dispatched Wayne County fire / rescue resources [Matherville FD] arrived on-scene, and provided ‘mutual aid’ support to the CVFD (the resources of which were already on-scene). The other

³⁶⁸ an Incident Command element, promulgated under the US DHS / FEMA, as described in [a document entitled] National Incident Management System (see [Internet] http://www.fema.gov/pdf/emergency/nims/nims_doc_full.pdf)

³⁶⁹ CC-AT call activity file ref. 601-776-3956_2007-11-01_11_10_44

³⁷⁰ CC-AT call activity file ref. 601-776-3956_2007-11-01_11_15_12

dispatched Wayne County FD units subsequently arrived on-scene a short time later, also to support the CVFD.

- 11:19:50* CC-AT Clarke County – E911 / Central Dispatch received a call on an administrative (non-emergency) phone line³⁷¹, from a staff person of the Wayne General Hospital, where [as the essence of the discussion] the caller indicated they [Wayne General] have dispatched an ambulance to the explosion area, where caller has contacted their EOC, where their EOC had asked the caller to contact Clarke County [E911 / Central Dispatch], where caller inquired if E911 / Central Dispatch knew what the gas is, in which the CDp responded “it’s propane”, where the caller then asked if they knew if any injuries, where CDp indicated she thought there were three [injuries].
- 11:20~ CC-AT Sheriff Department [Deputy] advises Clarke County – E911 / Central Dispatch that 2 bodies had been located at the scene, and requested that the County Coroner be alerted accordingly.
- 11:21~ CC-AT Clarke County – E911 / Central Dispatch phoned [the business address of] the Clarke County Coroner, to advise that 2 bodies had been located, and request that he respond to the scene, in which the Coroner advised that he would be heading that way.
- 11:36~ CC-AT Clarke County – E911 / Central Dispatch Director placed a call to the administration the Quitman School District - Central Office, [as the essence of the discussion] to inform them the area around County Road 630 and 621 was closed off, and school buses could not go into that area, and advised (at the end of the school day, around 3:00 pm) to let the students off the school buses at the Carmichael Community Center. The appropriate school official to make this decision wasn’t available, where it was requested to have that official phone back to Clarke County – E911 / Central Dispatch to discuss this further.
- 11:38~ CC-AT Clarke County – E911 / Central Dispatch Director received a phone call from an administration official of the Quitman School District to discuss the event, where [as the essence of the discussion] the Director advised that students who lived in the Carmichael area could not go home (because of the evacuation) and need to be taken to the Carmichael Community Center.
- 11:39 HCAN Dixie / Enterprise Products field personnel report to Dixie / Enterprise Products Controller at Pipeline-Ops the Main Block Valve at MP 437.43 has been closed (manually).
- 11:40~ Comsouth The responding Service Technician of the radio system maintenance

³⁷¹ CC-AT call activity file ref. 601-776-3956_2007-11-01_11_17_35

contractor arrives at the equipment site [County Jail], and commences to diagnose the apparent system malfunction and performs some maintenance activities, which was completed within a few minutes, where the technician returns to his vehicle, to relocate to another facility containing Clarke County communication equipment³⁷² (as further described; see 11:52~ activity).

- 11:52~ Comsouth The responding Service Technician of the radio system maintenance contractor relocates to the Clarke County – E911 / Central Dispatch facility, and continues to diagnose the apparent system malfunction. About 5 minutes later, the Service Technician manually reconnected the communications cables into the corresponding connection sockets, and the radio signal “repeater system” went back on-line³⁷² (as further described; see 11:57~ activity). The Service Technician performs additional diagnostic work on the system before departing the E911 / Central Dispatch facility (as further described; see 12:15~ activity).
- 11:55 MFCr MFC is notified of the event by E911 / Central Dispatch³⁷³.
- 11:57~ CC-AT a radio transmission is placed to Carmichael FD [a ‘10-23’ call], which
[corrected time³⁷⁴] was acknowledged as received. From this, Clarke County – E911 / Central Dispatch determines that the apparent malfunction of the FD radio signal “repeater system” has been remedied (by the responding Service Technician of the radio system maintenance contractor), and that the FD repeater system is back on-line. Communications with the Clarke County FD’s is able to resume normally on the FD radio signal channel.
- 12:00 MFCr MFC dispatched 8 MFC + 2 Vol. FD [fire suppression] vehicles, with personnel, to the scene (a location which is ~ 1½ hr drive away).
- 12:00~ debr Upon completion of the fire suppression of the burning residences on CR 621, the CVFD resources then commenced suppression of the several small spot fires that remained in the wooded areas proximate to that location.
- 12:15~ CC-AT The responding Service Technician of the radio system maintenance contractor completed the diagnostic and performance assessment work on the system, and determined that the Clarke County – E911 / Central Dispatch - Service Radio communication system was returned to full performance (whereupon he concluded the Service Call).

³⁷² as further described in this report; see § 7.9

³⁷³ as further described in this report; see § 6.6.2

³⁷⁴ likely correct time [11:57~] is based upon interview information received from the Service Technician of the radio system maintenance contractor, in which the Logged [11:55~] notation of this activity was subsequently determined to be inaccurate by several minutes (possibly due to inadvertent manually recorded [time ref.] errors by CDp, as further described in the Survival Factors Factual Report; see § 6.8.2.b). Also, no audio record (of this activity) was found in the recorded radio [audio] channels.

- 12:33:05* CC-AT a [Service] Radio transmission³⁷⁵ is placed by Carmichael FD to another FD Unit, to discuss on-scene operational logistics, which is followed by several additional radio transmissions.
- 12:36 HCAN Dixie / Enterprise Products field personnel report to Dixie / Enterprise Products Controller at Pipeline-Ops the Main Block Valve at MP 422.63 has been closed (manually).
- 13:33 MFCr MFC fire suppression vehicles, with personnel, arrive on-scene; MFC staff commence fire suppression operations in the wooded areas circumferential to the pipeline rupture site, but stayed clear of the continuing fire at the pipeline rupture site (which had been allowed to continue burning to vacate residual propane remaining in the pipeline).
- 14:00~ depr Upon suppressing the several small spot fires in the wooded areas, given the prior instructional guidance received (from Dixie / Enterprise Product, regarding fire suppression of such a pipeline fire), no effort was made to extinguish the on-going fire at the rupture site. Accordingly, with the CVFD having essentially completed as much of the evacuation and fire suppression effort as could be accomplished, CVFD resources (trucks and personnel) withdrew to the intersection of CR 620 and CR 621, which became the final Forward Command / resource staging location, as well as the Incident Command station. The CVFD resources remained at this location for a period of time, principally on a 'stand-by status' (rotating firefighting personnel with rested crews, as needed), where they were available to respond as might be needed to further address the incident.
- 14:30~ depr With fire suppression activities by the CVFD completed, where the CVFD withdrew to a stand-by status and essentially all responding fire / rescue mutual aid resources were released from the scene, the [law enforcement] Incident Command role consisted basically of managing site access control, and coordinating with technical staff of the pipeline owner / operator, and their contractors, who were addressing the pipeline rupture. The site access management element was essentially comprised of oversight of the staffing of roadway blockades at strategic locations [proximate to the accident site] by law enforcement resources, to prevent unauthorized entry (as further described in this report; see § 7.6.2).
- 17:23 MFCr MFC on-scene firefighting Team concludes fire suppression operations.
- Friday, 02 November 2007
- 04:30 CTEH a contractor [CTEH] commences air monitoring at various locations proximate to the rupture site.

³⁷⁵ CC-AT radio transmission activity file ref. County_Fire_2007-11-01_12_30_50

12:00~ NTSB on-scene personnel are able to conduct an inspection of the pipeline rupture site (i.e. the length of ruptured pipeline, and the trench that resulted from the rupture). The volume of fire at the two ends of the pipeline rupture [breach] had substantially reduced (as compared to the volume of fire that was presenting at the end of the prior day), where exhaustion of the remaining propane would be achieved by a controlled “burn-off” of residual propane that remained in the pipeline.

17:05 IC log Incident Command notified that the fire was officially declared extinguished. Suppression of the fire was achieved with the exhaustion of fuel (propane) in the pipeline, upon closure of the isolation (“block”) valves located on both sides of the rupture site and a controlled “burn-off” of residual propane that remained in the pipeline.

Further Incident Command activities principally addressed site security.

Sunday, 04 November 2007

16:00 IC log With fire suppression and evacuation activities fully concluded, and a law enforcement presence at the site deemed necessary only to provide site-security of the fire-destroyed residences (on CR 621), the Incident Command post was relocated to a site proximate the pipeline excavation location (a vacant field off CR 630), which essentially concluded tactical on-scene activities for the Incident Command process³⁷⁶.

-- End of this Exhibit --

³⁷⁶ several of the Incident Command staff remained at the relocated site for several days thereafter, to continue to monitor the site and provide logistical support, where on-going pipeline removal / replacement activities continued for several days.